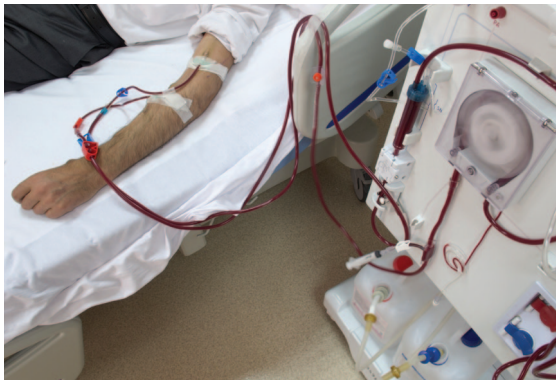
News and Resources from the National Institutes of Health

Kidney Disease Research Updates

National Kidney and Urologic Diseases Information Clearinghouse Summer 2011

More Frequent Dialysis Helps Kidney Patients

Kidney patients fare better on an almost-daily hemodialysis regimen than on the standard three-times-a-week plan, according to the Frequent Hemodialysis Network (FHN) Daily Trial funded by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). The finding could lead to changes in the standard of care for patients who need dialysis.



Nearly 400,000 Americans depend on dialysis to survive. Dialysis is needed when the kidneys can no longer remove wastes and extra fluid from the body. In hemodialysis, the most common kind of dialysis, blood flows through a special filter that removes wastes and extra fluids. The filtered blood is then returned to the body.

Despite recent advances in technology and medication, up to one in five patients on dialysis die each year. Scientists set out to test whether adding more dialysis sessions could improve patients' survival and well being. They randomly assigned nearly 250 dialysis patients to two groups. One group received six treatments a week. The other received three treatments a week.

The scientists found that patients receiving more frequent dialysis had improved heart health, blood pressure, and overall health. More frequent treatments also helped avoid high blood phosphate levels, a common problem for dialysis patients. A downside to more frequent dialysis was that access to blood vessels needed to be modified about twice as often.

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NIDDK
National Institute of Diabetes and Digestive and Kidney Diseases

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"We confirmed that by administering dialysis more often, although with a smaller dose each time, we could effectively deliver a higher weekly dose overall," said Griffin P. Rodgers, M.D., M.A.C.P., NIDDK. "As a result, patients' hearts remained healthier, they enjoyed better blood pressure control and they enjoyed better physical health than those receiving the standard three treatments per week."

The FHN Daily Trial was not designed to detect differences in mortality between treatment groups. However, the study showed promising results that more frequent dialysis could be of benefit to some patients.

For more information on the FHN Daily Trial, search for NCT00264758 at *www.ClinicalTrials.gov*. To learn about kidney disease, go to *www.nkdep.nih.gov*.

The National Kidney and Urologic Diseases Information Clearinghouse, part of the NIDDK, offers fact sheets and easy-to-read booklets about kidney disease and dialysis. For more information or to obtain copies, visit *www.kidney.niddk.nih.gov*. ■

New NIH Radio Features Available

Three new 60-second "Health Matters" radio spots from the National Institutes of Health (NIH) encourage using family reunions to review family health history. Learning about the health history of siblings, parents, and other blood relatives can provide clues to one's risk for developing serious diseases such as type 2 diabetes and kidney disease.

Visit *www.nih.gov/news/radio/healthmatters* to hear the new spots or read their transcripts. A longer NIH radio audio report on this subject is also available at *www.nih.gov/news/radio/jun2011/20110623NIDDKfamilyreunions.htm*. ■

Kidney Disease
Research Updates

Kidney Disease Research Updates, an email newsletter, is sent to subscribers by the National Kidney and Urologic Diseases Information Clearinghouse (NKUDIC). The newsletter features news about kidney disease, special events, patient and professional meetings, and new publications available from the NKUDIC and other organizations.

You can read or download a PDF version or subscribe to the newsletter at *www.kidney.niddk.nih.gov/about/newsletter.aspx*.

Executive Editor: Andrew S. Narva, M.D., F.A.C.P.

Dr. Narva is the director of the National Kidney Disease Education Program (NKDEP) within the National Institute of Diabetes and Digestive and Kidney Diseases. Prior to joining the NKDEP in 2006, he served as chief clinical consultant for nephrology and director of the Kidney Disease Program for the Indian Health Service. He has served as a member of the medical review board of ESRD Network 15, as a member of the steering committee of the National Kidney Foundation Kidney Early Evaluation Program (KEEP), and on the Kidney Disease Outcomes Quality Initiative (KDOQI) Diabetes and Chronic Kidney Disease Workgroup.

NIH Study Finds Genetic Clues to Major Cause of Kidney Disease Worldwide

IgA Nephropathy Is Most Common in Asians

For the first time, researchers have found five regions in the human genome that increase susceptibility to immunoglobulin A (IgA) nephropathy, a major cause of kidney failure worldwide—systematically identifying those that point to a tendency for IgA nephropathy, or a protection against it.

"This worldwide collaboration was critical to achieve sufficient momentum for the study and make progress in the field."

Ali Gharavi, M.D.
Associate Professor, Division of Nephrology, Columbia University

"The study is unique in identifying the biological pathways that mediate IgA nephropathy, mapping the way for further study that may reveal practical targets for diagnosis and treatment," said Ali Gharavi, M.D., an associate professor in the Division of Nephrology at Columbia University, the study's principal investigator. "The cause and development of IgA nephropathy is poorly understood. Many biological pathways have been suggested, but none has been conclusive until now."

The ongoing genome-wide association study is funded by the National Institutes of Health's (NIH's) Office of the Director, the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), and the National Center for Research Resources, under an NIH Challenge Grant. The project is a part of the $10.4 billion provided to the NIH through the American Recovery and Reinvestment Act of 2009. Results of the study were published in the April 2011 issue of *Nature Genetics*.

Researchers looked at the genes of 3,144 people of Chinese and European ancestry, all of whom have IgA nephropathy. The disease occurs when abnormal IgA antibodies deposit on the delicate filtering portion of the kidney and form tangles. The immune system tries to get rid of the tangles, but the kidneys are caught in the crossfire, further destroying the delicate filters.

Worldwide prevalence of IgA nephropathy appears highest in Asia and southern Europe, and the disease is responsible for most cases of kidney failure in those populations. The U.S. prevalence is much lower—up to 10 percent—although American Indians from New Mexico have reported rates as high as 38 percent.

"IgA nephropathy is most common in Asia, intermediate in prevalence in Europeans and rare in Africans. We found that the frequency of genetic risk variants was similarly highest in Chinese people, intermediate in Europeans, and lowest in Africans. This suggests that their higher frequency in Asians may in part account for increased prevalence in this population," said Gharavi.

"Genetics are helpful if they tell you a story about the biology of disease. Here, we're seeing a story unfold about the precise immune basis of IgA nephropathy, which also appears to be genetically associated with other rare kidney diseases—connections that were previously unsuspected," said Rebekah Rasooly, Ph.D., who directs the NIDDK's Program in Genetics and Genomics. "The beauty is that nobody had been looking in this direction, and now they are."

Some of the genes implicated in the study are especially interesting because they play a role in

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NIH Researchers Identify New Marker to Predict Progressive Kidney Failure and Death

A high level of a hormone that regulates phosphate is associated with an increased risk of kidney failure and death among chronic kidney disease (CKD) patients, according to a recent study led by researchers at the University of Miami and funded by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) at the National Institutes of Health (NIH).

"FGF23 could be the critically important puzzle piece that separates those who might have stable kidney function from those who have progressively worsening kidney disease and heart disease that requires more intensive therapy."

Robert A. Star, M.D.
Director, Division of Kidney, Urologic, and Hematologic Diseases, NIDDK

In a previous study of patients beginning hemodialysis for treatment of kidney failure, individuals with elevated blood levels of the hormone fibroblast growth factor 23 (FGF23) were found to be at nearly six times greater risk of death compared to those with lower levels. However, the hormone had not been tested in the much larger population of patients with less advanced CKD. Researchers now report that patients with earlier stage kidney disease and high FGF23 are at nearly two times higher risk of kidney failure if their baseline estimated glomerular filtration rate (eGFR) is 45 milliliters or higher, while all CKD patients are at three times higher risk of death compared to patients with lower levels of the hormone. The eGFR is a measure of kidney function.

Senior study author Myles Wolf, M.D., M.M.Sc., believes this discovery could lead to earlier diagnosis and treatment of phosphate problems. Treatment typically consists of dietary phosphate restriction and phosphate binders—medications that work like a sponge to soak up phosphate in the gut. "Since FGF23 rises before phosphate in people with early or intermediate-stage chronic kidney disease, this hormone could be an early marker—like a road sign—pointing to patients who may benefit from early management of phosphate levels, which may help preserve kidney function and reduce deaths," he said.

Our bodies need phosphorus to build and repair bones and teeth, help cells function and maintain DNA. With fine-tuned regulation from hormones like FGF23, the kidneys help control the amount of phosphate in the blood by eliminating the excess. Elevated phosphate levels are often a consequence of advanced kidney disease or damage. But too much phosphate may also make kidney disease worse.

The findings are based on data from 3,879 racially diverse participants with CKD who enrolled in the NIDDK-supported, multicenter, observational Chronic Renal Insufficiency Cohort (CRIC) Study between June 2003 and September 2008. During a median follow up period of 3.5 years, 266 patients died and 410 developed kidney failure.

"The major goal of the CRIC Study is to figure out which factors might predict rapid loss of kidney function and development and worsening of heart disease in CKD patients," said Robert A. Star, M.D., director of the Division of Kidney, Urologic, and Hematologic Diseases at the NIDDK. "FGF23 could be the critically important puzzle piece that separates those who might have stable kidney function from those who have progressively worsening kidney disease and heart disease that requires more intensive therapy. FGF23 might work better than more traditional measures, such as protein in the urine, in certain settings."

New Marker,
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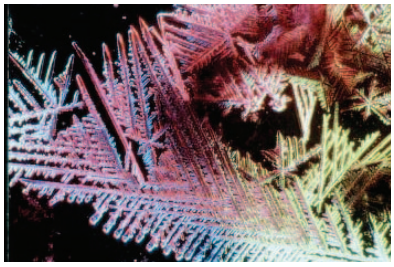
Molecular Mimics Curb Kidney Stone Crystals

By studying how kidney stone crystals grow at the nanoscale level, scientists were able to identify molecules that were similar enough to attach to crystals but different enough to prevent further growth. The new strategy might prove an effective way to block kidney stone formation.



"This may lead to a new approach to preventing cystine stones simply by stopping crystallization."

Michael Ward, Ph.D.
Director, Molecular Design Institute, New York University, and co-authors

Kidney stones are hard masses that develop from crystals that build up in the kidneys. Most kidney stones can travel from the kidney and through the urinary tract before they grow large enough to cause any problems. But in some people, the crystals enlarge, clump together, and lodge in the kidneys, bladder, or urinary tract, causing severe pain.

A rare type of kidney stone made of the amino acid L-cystine affects about 20,000 people nationwide. Those people have an inherited condition called cystinuria. L-cystine stones are larger, recur more often, and are more likely to cause chronic kidney disease than the more common calcium oxylate kidney stones. L-cystine stones are also more difficult to treat. Current approaches can suppress but may not completely prevent L-cystine crystal formation, and some therapies have negative side effects.

To identify better treatment options, Michael Ward, Ph.D., director of New York University's Molecular Design Institute, and colleagues used atomic force microscopy to observe the formation of L-cystine crystals at a near-atomic level. Their research was funded in part by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK).

As reported in the October 15, 2010, issue of *Science,* the investigators found that L-cystine crystals form pyramids of hexagon-shaped plates. The plates have "steps" on their surfaces that grow in a spiral fashion as L-cystine molecules continually attach to their edges.

In the hope of slowing crystal growth, the researchers identified two synthetic compounds—L-cystine dimethylester (L-CDME) and L-cystine methylester (L-CME)—that are chemically similar to L-cystine but have different groups of atoms at both ends. Again using atomic force microscopy, the scientists observed crystal formation after either of the synthetic compounds was added to the mix.

The researchers found that the compounds essentially acted as chemical imposters by attaching to sites for crystal growth but then blocking the attachment of additional L-cystine building blocks. The edges of the hexagon-shaped pyramid became more ragged and misshapen.

Additional analyses showed that L-CDME and L-CME reduced overall crystal production and crystal size. L-cystine crystals grown in the presence of L-CDME tend to form a hexagon-shaped needlelike structure that's about 1,000 times smaller than typical L-cystine crystals.

"This may lead to a new approach to preventing cystine stones simply by stopping crystallization," said Ward. He and his colleagues note, however, that their research is still in its early stages, and the crystal inhibitors may work differently in the body than in the laboratory. Further research is needed to test the compounds' effectiveness in animal models.

The National Kidney and Urologic Diseases Information Clearinghouse, part of the NIDDK, has fact sheets and easy-to-read booklets about kidney stones. For more information or to obtain copies, visit *www.kidney.niddk.nih.gov.* ■

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immune disorders unrelated to the kidneys. For example, the complement factor H region, called a locus, has been associated with macular degeneration, a progressive eye disease that can result in blindness; and susceptibility to meningococcal infection, the bacteria that causes meningitis.

Rasooly noted that since the genes identified in the Asian population were also found in North American and Mediterranean European populations, this suggests the genetic basis for the disease is similar in these populations. "It's possible that this research might be relevant to all populations," she said. "The study is also a great opportunity to conduct meaningful research with Recovery Act funding. Thanks to an NIH Challenge Grant, we now have a small but growing portfolio in this area, whereas we had nothing on it just a few years ago."

IgA nephropathy appears to be a benign disease in some people, causing only occasional blood in the urine, while others need a kidney transplant, according to Marva Moxey-Mims, M.D., director of the NIDDK's Pediatric Nephrology and Renal Centers Programs. "What's the difference between these groups of people? This study begins to answer that question," she said. "Although these gene locations by themselves do not unequivocally predict individual risk for disease or severity of it, now we can do more specific, prospective clinical studies to determine if they have predictive power about clinical outcomes in IgA nephropathy."

Moxey-Mims added that the study also may one day point the way to a more accurate, less invasive way of diagnosing IgA nephropathy. Current diagnostic methods require a kidney biopsy, an invasive procedure that must be performed in a hospital.

The findings resulted from long-term collaborations among investigators in the United States, Italy, and China. "This worldwide collaboration was critical to achieve sufficient momentum for the study and make progress in the field," said Gharavi. He and study co-principal investigator, Richard Lifton, M.D., professor of genetics, Yale University, will recruit another 5,000 patients worldwide.

To learn about clinical trials for IgA nephropathy, visit *www.ClinicalTrials.gov.*

The National Kidney and Urologic Diseases Information Clearinghouse, part of the NIDDK, offers health information about IgA nephropathy. For more information, visit *www.kidney.niddk.nih.gov.* ■

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Star added that the study of FGF23 in the CRIC Study is part of a major effort supported by the NIDDK to identify markers that can better predict the fate of patients with CKD. Further work is necessary to determine whether FGF23 actually causes death or progressively reduces kidney function in CKD patients, and whether reducing FGF23 levels improves patient survival.

For more information on the study of FGF23 in the CRIC Study, search for NCT00304148 at *www.ClinicalTrials.gov.* To learn about kidney disease, go to *www.nkdep.nih.gov.*

This research was also supported by the NIH's National Center for Research Resources.

The National Kidney and Urologic Diseases Information Clearinghouse, part of the NIDDK, offers fact sheets and easy-to-read booklets about kidney disease and dialysis. For more information or to obtain copies, visit *www.kidney.niddk.nih.gov.* ■

Number of Americans with Diabetes Rises to Nearly 26 Million

More Than One-Third of U.S. Adults Estimated to Have Pre-diabetes

Nearly 26 million Americans have diabetes, according to new estimates from the Centers for Disease Control and Prevention (CDC). Diabetes affects 8.3 percent of Americans of all ages and 11.3 percent of adults ages 20 and older. About 27 percent of those with diabetes—7 million Americans—do not know they have the disease.

"These distressing numbers show how important it is to prevent type 2 diabetes and to help those who have diabetes manage the disease to prevent serious complications such as kidney failure and blindness."

Ann Albright, Ph.D., R.D.
Director, Division of Diabetes Translation, CDC

In addition, more than one-third of U.S. adults ages 20 and older—an estimated 79 million adults—have pre-diabetes. Pre-diabetes raises a person's risk of type 2 diabetes, heart disease, and stroke.

Diabetes is the seventh leading cause of death in the United States. People with diabetes are more likely to suffer from complications such as heart attacks, strokes, high blood pressure, kidney failure, blindness, and amputations of feet and legs. Diabetes costs $174 billion annually, including $116 billion in direct medical expenses.

"These distressing numbers show how important it is to prevent type 2 diabetes and to help those who have diabetes manage the disease to prevent serious complications such as kidney failure and blindness," said Ann Albright, Ph.D., R.D., director of the CDC's Division of Diabetes Translation. "We know that a structured lifestyle program that includes losing weight and increasing physical activity can prevent or delay type 2 diabetes."

Reasons for Rising Numbers

In 2008, the CDC estimated that 23.6 million Americans, or 7.8 percent of the population, had diabetes and another 57 million adults had pre-diabetes. The 2011 estimates have increased for several reasons:

- More people are developing diabetes.
- Many people are living longer with diabetes, which raises the total number of those with the disease. Better management of the

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Number of Americans with Diabetes May Double or Triple by 2050

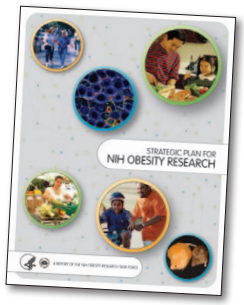
As many as one in three U.S. adults could have diabetes by 2050 if current trends continue, according to a new analysis from the CDC.

One in 10 U.S. adults now has diabetes. The prevalence is expected to rise sharply over the next 40 years due to an aging population more likely to develop type 2 diabetes, population increases in minority groups that are at high risk for type 2 diabetes, and people with diabetes living longer, according to CDC projections published in the journal *Population Health Metrics*. Because the study factored in aging, minority populations, and life span, the projections are higher than previous estimates.

The report predicts that the number of new diabetes cases each year will increase from eight per 1,000 people in 2008, to 15 per 1,000 in 2050.

To read the full report, visit *www.pophealthmetrics.com/content/8/1/29*. For information about diabetes, visit *www.cdc.gov/diabetes*, *www.yourdiabetesinfo.org*, and *www.diabetes.niddk.nih.gov*.

Strategic Plan for NIH Obesity Research Seeks to Curb Epidemic



In March 2011, the National Institutes of Health (NIH) released the comprehensive *Strategic Plan for NIH Obesity Research.* The plan was assembled by health care professionals, researchers, and the public to combat the obesity epidemic. More than one-third of U.S. adults and nearly 17 percent of U.S. children are obese. Obesity increases health risks such as type 2 diabetes, heart disease, high blood pressure, fatty liver disease, and cancer.

"Obesity has many causes and contributing factors. This plan is a bold blueprint that will encourage the research community to examine the epidemic of obesity from diverse perspectives," said NIH Director Francis S. Collins, M.D., Ph.D. "Through the scientific opportunities outlined in the strategic plan, researchers can work together toward the goals of preventing and treating obesity, to help people lead healthier and more fulfilling lives."

The plan recognizes that eating less and exercising more is easier said than done. Highlighting the crucial role of research in efforts to reduce obesity, the plan emphasizes using education and outreach to move proven research strategies from the laboratory into clinical trials and ultimately into practical solutions for community programs and medical practice. Recommendations include

- discovering the key processes that regulate body weight and influence behavior
- understanding the factors that contribute to obesity and its consequences
- designing and testing new approaches for achieving and maintaining a healthy weight
- evaluating promising strategies to prevent and treat obesity in real-world settings and diverse populations
- using technology to advance obesity research and improve health care delivery

The *Strategic Plan for NIH Obesity Research* was developed by the NIH Obesity Research Task Force, which is co-chaired by Griffin P. Rodgers, M.D., M.A.C.P., director of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK); Susan B. Shurin, M.D., acting director of the National Heart, Lung, and Blood Institute; and Alan E. Guttmacher, M.D., director of the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development.

Though there is no funding directly tied to the plan, NIH funds research to better understand the causes and consequences of obesity and to develop and test new prevention and treatment strategies, an investment of $824 million in fiscal year 2010, plus awards totaling $147 million made in the same year through the American Recovery and Reinvestment Act of 2009.

To order or download the *Strategic Plan for NIH Obesity Research* or the 8-page nontechnical summary, visit *www.obesityresearch.nih.gov.*

The NIH offers free tools, tips, and resources to help people achieve or maintain a healthy weight through the NIDDK Weight-control Information Network. For more information visit *www.win.niddk.nih.gov.* ■

NIH Launches Bowel Control Awareness Campaign for Health Care Professionals and the Public

On June 1, 2011, the National Institutes of Health (NIH) launched the Bowel Control Awareness Campaign to raise awareness of bowel control problems, also known as fecal incontinence. A bowel control problem is a mild to severe inability to control bowel movements. The Awareness Campaign stems from the recommendations of an independent panel of experts convened by the NIH to assess the current prevalence, risk factors, diagnosis, treatment, and management of the condition.

NIDDK Bowel Control Awareness Campaign materials

"People experiencing bowel control problems need to know they are not alone and that the condition can be managed. The Bowel Control Awareness Campaign will inform health care professionals and the public that bowel incontinence is a common condition and that effective treatments are available."

Stephen P. James, M.D.
Director, Division of Digestive Diseases and Nutrition, NIDDK

"Our findings indicate that fecal incontinence is a significant public health burden in the U.S.—affecting close to 10 percent of the adult population over 40 years old," said Griffin P. Rodgers, M.D., M.A.C.P., director of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), the NIH Institute leading the effort. "The Bowel Control Awareness Campaign's main objective is raising public awareness of fecal incontinence to aid in prevention of incontinence and to improve the lives of men and women living with the condition."

Bowel control problems affect an estimated 18 million U.S. adults—one out of 12 people. People with bowel control problems are often reluctant to discuss the condition with their doctor. The embarrassment associated with fecal incontinence can have a crippling effect on quality of life for millions, and the condition is believed to be widely underdiagnosed.

Developed by the NIDDK, along with professional and voluntary organizations, the Awareness Campaign offers materials and resources about the symptoms, diagnosis, treatment, and management of bowel control problems for patients and health care professionals. Available through the Awareness Campaign's "Let's Talk about Bowel Control" website are publications such as a fecal incontinence fact sheet, an easy-to-read bowel control booklet, and a health fair flyer; NIH bowel control research information; and links to professional and voluntary organizations.

"The lack of communication between health care professionals and patients appears to be one of the main challenges with bowel control problems. Being able to talk about the problem is the first step in both prevention and treatment," said Stephen P. James, M.D., director of the Division of Digestive Diseases and Nutrition at the NIDDK. "People experiencing bowel control problems need to know they are not alone and that the condition can be managed. The Bowel Control Awareness Campaign will inform health care professionals and the public that bowel incontinence is a common condition and that effective treatments are available."

For more information about the Bowel Control Awareness Campaign, or to download any of the campaign materials, visit the website at *www.bowelcontrol.nih.gov.*

For health information about digestive diseases, visit the National Digestive Diseases Information Clearinghouse, part of the NIDDK, at *www.digestive.niddk.nih.gov.* ■

Diabetes Research Strategic Plan Released

A new strategic plan for diabetes research, *Advances and Emerging Opportunities in Diabetes Research: A Strategic Planning Report of the Diabetes Mellitus Interagency Coordinating Committee* (DMICC), has been released. The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) spearheaded the plan's development in its DMICC leadership role.

"By setting priorities and identifying the most compelling research opportunities, the strategic plan will guide the NIH [National Institutes of Health], other federal agencies, and the investigative community in efforts to improve diabetes treatments and identify ways to keep more people healthy."

Griffin P. Rodgers, M.D., M.A.C.P.
Director, NIDDK

The plan focuses on 10 areas of diabetes research with the most promise, and the goal to accelerate discovery on several fronts, including

- the relationship between obesity and type 2 diabetes, and how both conditions may be affected by genetics and environment
- the autoimmune mechanisms at work in type 1 diabetes
- the biology of beta cells, which release insulin in the pancreas
- development of artificial pancreas technologies to improve management of blood glucose levels
- prevention of diabetes complications that affect the heart, eyes, kidneys, nervous system, and other organs
- reduction of the impact of diabetes on groups disproportionately affected by the disease, including older people and racial and ethnic minorities

"By setting priorities and identifying the most compelling research opportunities, the strategic plan will guide the NIH [National Institutes of Health], other federal agencies, and the investigative community in efforts to improve diabetes treatments and identify ways to keep more people healthy," said NIDDK Director Griffin P. Rodgers, M.D., M.A.C.P.

The launch of this strategic plan for diabetes research is especially timely in light of new 2010 data showing that diabetes affects 25.8 million Americans, or about 8.3 percent of the U.S. population.

The final plan is available at *www2.niddk.nih.gov/AboutNIDDK/ReportsAndStrategicPlanning/DiabetesPlan/PlanPosting.htm.* Printed copies can be requested from the National Diabetes Information Clearinghouse at 1–800–860–8747 and by email at *ndic@info.niddk.nih.gov.* Single copies are free.

Visit *www.diabetes.niddk.nih.gov* for more information about diabetes. ■

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disease is improving cardiovascular disease risk factors and reducing complications such as kidney failure and amputations.

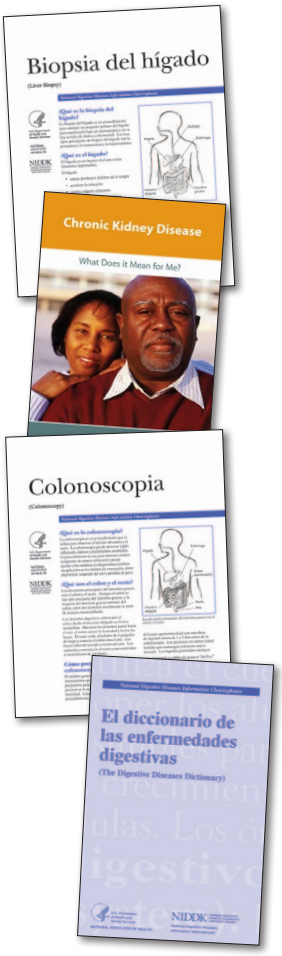
- Hemoglobin A1C, also called glycated hemoglobin or A1C, is now used as a diagnostic test and was therefore incorporated into calculations of national prevalence for the first time. The A1C test reflects blood glucose levels over the previous 3 months. Because of this change, the 2011 estimates of populations with diabetes and pre-diabetes are not directly comparable with 2008 and earlier estimates.

Type 2 diabetes accounts for 90 to 95 percent of diabetes cases. Risk factors for type 2 diabetes include older age, obesity, having a family history of diabetes, having a history of gestational diabetes, having a sedentary lifestyle, and belonging to certain racial or ethnic groups.

The updated statistics from the CDC are included in the NIDDK fact sheet *National Diabetes Statistics, 2011,* available at *www.diabetes.niddk.nih.gov/dm/pubs/statistics.* The NIDDK has easy-to-read booklets and fact sheets about diabetes. For more information or to obtain copies, visit *www.diabetes.niddk.nih.gov.* ■

NIDDK Health Information Resources Win NIH Plain Language/Clear Communication Awards

Six health information resources produced by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) won 2010–2011 National Institutes of Health (NIH) Plain Language and Clear Communication awards. The annual awards program, now in its 11th year, honors communication products that help the NIH reach all Americans with health information they can use and research results they can easily understand.



2010–2011 NIDDK NIH Plain Language/Clear Communication Award winners:

Biopsia del higado (Liver Biopsy), produced by the National Digestive Diseases Information Clearinghouse (NDDIC), is a Spanish-language fact sheet that provides general information about liver biopsy: the purpose of the test, how to prepare for it, and what to expect during and after the procedure. The fact sheet is also available in English. To view, download, or order the fact sheet, visit the NDDIC website at *www.digestive.niddk.nih.gov.*

Chronic Kidney Disease: What Does it Mean for Me?, produced by the National Kidney Education Program (NKDEP), is a full-color brochure designed to help recently diagnosed patients understand chronic kidney disease. View, download, or order the brochure at the NKDEP's website, *www.nkdep.nih.gov/resources/CKD_Basics_brochure.htm.*

Colonoscopia (Colonoscopy), produced by the NDDIC, is a Spanish-language fact sheet that provides general information about colonoscopy: the purpose of the test, how to prepare for it, and what to expect during and after the procedure. The fact sheet is also available in English. To view, download, or order the fact sheet, visit the NDDIC website at *www.digestive.niddk.nih.gov.*

El diccionario de las enfermedades digestivas (The Digestive Diseases Dictionary), produced by the NDDIC, is a Spanish-language booklet that defines more than 400 terms and includes illustrations. The booklet is also available in English. To view, download, or order the booklet, visit the NDDIC website at *www.digestive.niddk.nih.gov.*

Healthy Moments is a weekly radio report series from NIDDK Director Griffin P. Rodgers, M.D., M.A.C.P. The series, broadcast online and on radio, provides health tips about how to prevent and control diseases that fall within the NIDDK's purview. For more information and to listen to new and archived reports, visit *www2.niddk.nih.gov/HealthEducation/HealthyMoments.*

The National Diabetes Education Program's (NDEP's) Managing Your Diabetes campaign materials, based on health messaging research and focus groups, reinforce the seriousness of diabetes and the importance of managing diabetes as early as possible. The materials, including posters and public service announcements, were developed for NDEP partners and media outlets and feature people living with diabetes. Visit the NDEP website for more information about the campaign and to access campaign materials at *www.ndep.nih.gov.*

The NDEP's Managing Your Diabetes podcasts series features real people living with diabetes and shares their personal stories about how they manage their diabetes every day. Visit the NDEP website for more information and to access the podcasts at *www.ndep.nih.gov.*

Information about the NIH Plain Language/Clear Communication Awards program and a complete list of winners is available at *www.nih.gov/clearcommunication/plainlanguage.htm.* ■

2011 Edition of NIDDK's Annual Scientific Report Now Available

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) annual scientific report, *NIDDK Recent Advances & Emerging Opportunities,* is now available. This report highlights examples of NIDDK-supported research advances published in fiscal year 2010. The report includes "Stories of Discovery," which traces research progress in specific areas over a longer time frame, and profiles of patients who are benefiting from NIDDK-supported clinical research. This year's report also contains a special section highlighting the NIDDK's 60th anniversary activities, as well as a feature about the 2010 Albert Lasker Basic Medical Research Award winners—current and former NIDDK grantees Jeffrey Friedman, M.D., Ph.D., and Douglas Coleman, Ph.D.

To read the report online, visit *www2.niddk.nih.gov/AboutNIDDK/ResearchAndPlanning/Advances/FY2011.* To request a copy, fill out the form at *www.catalog.niddk.nih.gov/ContactUs.cfm,* call 1–800–860–8747, or write to the NIDDK Clearinghouses Publications Catalog, 5 Information Way, Bethesda, MD 20892–3568.

The NIDDK has health information, including easy-to-read booklets and fact sheets. For more information or to obtain copies, visit *www.niddk.nih.gov.* ■

NIDDK Staff Update

Padma Maruvada, Ph.D, joined the Division of Digestive Diseases and Nutrition as the new director of the Nutrition and Clinical Obesity Program. Maruvada served as the program officer in the National Center for Research Resources for the Institutional Development Awards Program, where she managed a multidisciplinary research portfolio. She also served as program director in the National Cancer Institute's Division of Cancer Prevention. Maruvada trained in the National Institute of Diabetes and Digestive and Kidney Diseases' intramural research program. ■

In Memoriam

Vanessa Z. Ameen, M.D., a senior scientific advisor within the Division of Digestive Diseases and Nutrition, died in February 2011. Specializing in pediatrics and gastroenterology, Ameen was recruited to the National Institutes of Health (NIH) from private industry, where she served as medical director to several pharmaceutical manufacturers. Ameen was previously an assistant professor of pediatrics at Temple University, and she taught at Indiana University and the Medical College of Wisconsin. Ameen served as science officer for the Patient-Reported Outcomes Measurement Information System (PROMIS), a network of NIH-funded facilities working to develop better measures for patient symptom-based outcomes. ■

NIH Videos Help Health Care Providers Answer Questions about Dialysis

First Series Focuses on Arteriovenous (AV) Fistula Surgery

Health care providers can now take advantage of a new video series to help them talk with patients about preparing for dialysis treatments. The eight short videos cover some of the most common questions patients ask about surgery to create an AV fistula, a connection between an artery and a vein in the arm that allows adequate blood flow for dialysis. The videos were produced by the National Kidney Disease Education Program (NKDEP) and the Fistula First Breakthrough Initiative (FFBI).

"We hope these videos will help providers feel more comfortable discussing fistula placement so those important conversations can happen earlier in the disease process."

Andrew S. Narva, M.D., F.A.C.P.
Director, NKDEP

"We know that it is sometimes difficult for primary care providers to talk with patients about the different aspects of dialysis preparation," said Andrew S. Narva, M.D., F.A.C.P., director of the NKDEP. "We hope these videos will help providers feel more comfortable discussing fistula placement so those important conversations can happen earlier in the disease process."

A normal vein does not allow blood to flow rapidly enough to and from the dialysis machine, and repeated needle punctures would harm the vein. "We encourage patients to have a fistula placed in an arm several months before we anticipate they will need dialysis," Narva said. Advance placement allows time for the fistula to heal, so it is ready for the first dialysis treatment.

"It is important for patients and their families to understand the need for permanent vascular access," said Brandy Vinson, FFBI project manager. "Fistulas provide such access, so we are pleased to have developed this video series with NKDEP. It helps us carry out our mission to meet patient and provider needs."

Each 1- to 2-minute video features Betty Garrison, an actual patient who is facing dialysis, and Narva, a board-certified nephrologist who answers her questions.

"Patients facing dialysis need to understand what is happening to them and to their bodies," said Garrison. "I was still a little fearful after talking with Dr. Narva, but I had my surgery because I knew it would help me in the long run. My fistula will be ready when I need to start dialysis."

The video series is featured on the NKDEP and FFBI websites. To access the videos on the NKDEP site, visit the AV Fistula Placement section of *www.nkdep.nih.gov/professionals/providereducation/index.htm.*

On the FFBI site, the videos are located at *www.fistulafirst.org/ProviderEducationalVideos.aspx.*

The NKDEP, an initiative of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), aims to raise awareness of the seriousness of kidney disease, the importance of testing those at high risk, and the availability of treatment to prevent or slow kidney disease. For more information about the NKDEP, see *www.nkdep.nih.gov.*

FFBI Coalition members include the Centers for Medicare & Medicaid Services, Medicare End-stage Renal Disease (ESRD) Networks, and a broad representation of other organizations from the renal community. The coalition works to ensure every suitable hemodialysis patient will receive the optimal form of vascular access—in most cases, an AV fistula. Learn more about the FFBI at *www.fistulafirst.org.*

The National Kidney and Urologic Diseases Information Clearinghouse, part of the NIDDK, has fact sheets and easy-to-read booklets about kidney disease. For more information or to obtain copies, visit *www.kidney.niddk.nih.gov.* ■

Resources

Updated Publications

The National Kidney and Urologic Diseases Information Clearinghouse has updated the following publications:

- *The Kidney Diseases Dictionary*
- *The Kidney Failure Glossary*
- *Nutrition for Advanced Chronic Kidney Disease in Adults*
- *Nutrition for Chronic Kidney Disease in Children*
- *Nutrition for Early Chronic Kidney Disease in Adults*

These publications are available at *www.kidney.niddk.nih.gov.*

Upcoming Meetings, Workshops, and Conferences

The National Institute of Diabetes and Digestive and Kidney Diseases Information Clearinghouses will exhibit at the following upcoming event:

American Society of Nephrology Renal Week

November 8–13 in Philadelphia.
For more information, visit *www.asn-online.org.* ■

Would you like to know more about NIDDK-supported research?

The National Institutes of Health (NIH) provides access to a variety of reporting tools, reports, data, and analyses of NIH research activities at the Research Portfolio Online Reporting Tools (RePORT) website, *www.projectreporter.nih.gov/reporter.cfm.* One of the tools available is RePORT Expenditures and Results (RePORTER), which allows users to search a repository of NIH-funded research projects and access and download publications and patents resulting from NIH funding. ■

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